Claims

1. Fire protection gate, featuring a normative fire resistance category or similar classification, with an encompassing structure and bilateral steel plate shells, between which a temperature resistant fire protection inset is integrated to observe demands of the normative fire resistance categories or similar classifications, formed at least from an insulating element in the form of a plate, formed of mineral fibers soluble in a physiological milieu and reinforced by a binding agent, **characterized in that** the composition of said mineral fibers of the insulating element features an alkali/earth alkali mass relation of < 1 and the fiber structure of said insulating element is determined by an average geometrical fiber diameter ≤ 4 µm, a portion of the binding agent, relative to the mass of fiber content of the insulating element in the range of 1 – to 3 weight % and a gross density in the range of 60 to 130 kg/m³, whereby the gross density at a fire resistance category T30 or similar features 60 to 80 kg/m³, preferably 70 kg/m³, at a fire resistance category T60 or similar, it features 80 to 110 kg/m³, preferably 100 kg/m³, and at a fire resistance category of T90 or similar, it features 110 to 130 kg/m³, preferably 120 kg/m³.

2. Fire protection gate according to claim 1, **characterized in that** said binding agent is an organic binding agent, such as phenol-formaldehyde resin.

3. Fire protection gate according to claim 1 or 2, **characterized in that** the portion of binding agent, relative to the fiber mass of said insulating element, is within the range of 1 to 2 weight %.

4. Fire protection gate according to one of the preceding claims, **characterized in that** said insulating element features a point of fusion according to DIN 4102, Part 17, of ≥ 1.000 °C.

5. Fire protection gate according to one of the preceding claims, **characterized in that** said mineral fibers of the insulating element are produced by internal centrifugation pursuant to the centrifuging basket procedure, with a centrifuging basket temperature of at least 1.100 °C.

6. Fire protection gate according to one of the preceding claims, **characterized in that** the resetting force, measure as pressure tension at 10% sprain according to DIN EN 826 of the insulating element, integrated in the fire protection gate, at a fire resistance category T30 or similar amounts to < 4 kPa, at a fire resistance category of T60 or similar, it amounts to < 6 kPa and at a fire resistance category of T90 or similar, it amounts to < 8 kPa.

7. Fire protection gate according to one of the preceding claims, **characterized in that** said insulating element features a dehydrating substance under thermal influence, preferably aluminum hydroxide.

8. Fire protection gate according to claim 8, **characterized in that** said dehydrating substance is integrated in at least a discrete layer between said mineral fibers of the insulating element, and the discrete layer is preferably plane, being aligned parallel to both main surfaces of said insulating element.

9. Fire protection gate according to claim 8, **characterized in that** said dehydrating substance is provided homogeneously in the insulating element.

10. Fire protection gate according to one of the preceding claims, **characterized in that** said mineral fibers of the insulating element, with a view to their solubility in a physiological milieu, meet the requirements of the European Guideline 96/69/EG and/or the requirements of the German Norm for Dangerous Products, Section IV, No. 22.

11. Fire protection gate according to claim 11, **characterized** by the following chemical composition ranges of the mineral fibers of said insulating element in weight %:

SiO_2	39 – 55	%	preferably	39 – 52 %
Al_2O_3	16 – 27	%	preferably	16 - 26 %
CaO	6 – 20	%	preferably	8 - 18 %
MgO	1 - 5	%	preferably	1 – 4,9 %
Na_2O	0 - 15	%	preferably	2 - 12 %
K_2O	0 - 15	%	preferably	2 - 12 %
R_2O ($Na_2O + K_2O$)	10 – 14,7	%	preferably	10 – 13,5 %
P_2O_5	0 - 3	%	especially	0 - 2 %
Fe_2O_3 (iron altogether)	1,5 - 15	%	especially	3,2 - 8 %
B_2O_3	0 - 2	%	preferably	0 - 1 %
TiO_2	0 - 2	%	preferably	0,4 - 1 %
Other	0 – 2,0	%		

12. Fire protection gate according to one of the preceding claims, **characterized in that** the insulation element features a bead portion of < 1 %.

13. Fire protection inset for a fire protection gate according to the preamble of claim 1, **characterized in that** an insulating element is provided with the marking features of at least of claims 1 to 12.

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